

Use Case – Create NOMCR

COPS.P01ModelManageData_UseCase_CreateNOMCR_V0.9

Name: Create NOMCR for Incremental Model Update

Summary:

Create Data change file for all additions, deletions or modifications that apply to the Network, Generation or SCADA models of ERCOT. This file is attached to a Network Operations Model Change Request form that jointly constitute the NOMCR. The creation may be done by logging in the thin client and directly entering data into NMMS using the graphic interface or sending changes in a CIM/XML file format.

Acronyms:

MC	ERCOT Model Coordinator
ERCOT	Electric Reliability Council of Texas
NOMCR	Network Operations Model Change Request (AKA: Project Files)
NMMS	Network Model Management System
CIM	Common Information Model
XML	Extensible Markup Language
IEC	International Electro-technical Committee
MIS	Market Information System
MP	Market Participant

Actor(s):

Name	Role description
ERCOT Model Coordinator (the receiving entity) – Network Modeling Group	NOMCRs containing incremental changes are received from the Market Participants for Processing. ERCOT MC will enter any data that needs to be manually entered using the graphic editor
MP(the sending entity)	Generate NOMCR attaching the NOMCR form with the changes submitted in the form of CIM/XML, an approved Non-CIM format or directly entering the data in IMM using graphic editor. These CIM/XML Incremental files should meet the specifications of IEC 61970-552-4. These updates may include adds, deletes or changes to the Network, SCADA, or Generation models.

Participating Systems:

System	Services or information provided
The EMS systems or third party tools at the MP. If the MP does not elect to purchase a tool to generate the CIM/XML file, the file must be generated by hand (see issue 1 below).	Identify changes to the model(s) that will occur three (3) months or more from the relative date per the schedule defined in Nodal Protocols Section 3.10.1. Enter the changes directly in NMMS in one of two ways: <ol style="list-style-type: none"> 1. Log into the thin client and use the graphic editor 2. Create a CIM/XML incremental file(s) containing the incremental changes for each scheduled deployment date

	Attach the associated changes with a NOMCR form to complete the creation of a NOMCR. Create a separate NOMCR with the associated CIM/XML incremental file for each change that will be implemented on a given date.
The NMMS System at ERCOT	If changes are in the form of CIM/XML, the import of changed data occurs at NMMS with automatic validation of entered data changes. If the changes are entered using graphical interface saving of data changes will result in automatic validation of data entered in NMMS Send a notification of receipt within 5 Business Days.
Thin client for MP login	This provides a secure login to MP (NOMCR submitter), generates an NOMCR and allows entry of the changes into NMMS

Pre-conditions:

The MP has access to an NMMS thin client to enter changes into the ERCOT system

Design Considerations:

NONE

Examples of incremental model changes are:

- Add a transformer
- Add new line or modify existing line
- Add, delete or move a load

Sample files containing the above listed changes are located on the CIM/XML e-group under the following names:

1. co_acline_mod.rdf – contains incremental changes to modify an ac line segment
2. co_acline_add.rdf – contains incremental changes to add an ac line segment
3. co_load_add.rdf – contains incremental changes to add a load
4. co_pt_add.rdf - contains incremental changes to add a transformer
5. co_load_move.rdf - contains incremental changes to move a load
6. co_load_del.rdf - contains incremental changes to delete a load

Other examples of incremental model changes are:

- Replace existing transformer with a new transformer with different ratings
- Delete an existing line
- Change rating or setting

Known assumptions, limitations, constraints, or variations that may affect this use case:

- MP creates a NOMCR using graphic editor. MP will save changes into NMMS and complete level 1 validation.
- The MP creates a NOMCR with a CIM/XML file, but does not use the graphic interface to get data into the NMMS. MP will enter this data into NMMS and complete level 1 validation.
- Other data that MP fails to enter will be entered by ERCOT MC using the graphic editor in NMMS

Normal Sequence:

Use Case Step	Description	From - To	Information Content
Step 1	MP logs in thin client	(from) at MP (to) thin client	
Step 2	MP opens the graphic interface and selects a Substation in ERCOT NMMS system	(from) MP (to) NMMS	Graphic interface
Step 3	MP makes necessary modifications – Edit/Delete/Add an equipment using the graphic interface and saves the changes in ERCOT NMMS system	(from) MP (to) NMMS	Graphic interface with modifications
Step 4	NMMS performs the level 1 automatic Validation as data is saved. This includes connectivity and data range checking against the data changes saved. If the validation is not successful an error file is generated and MP makes corrections in entered data using graphic interface until there is no validation error	(from) MP (to) NMMS	Graphic interface with modifications
Step 5	After successful validation is done for all required changes of that NOMCR, MP submits the NOMCR	(from) MP (to) NMMS	NOMCR with data changes already in NMMS
Step 6	NMMS generates a CIM/XML file on submission of the NOMCR and creates a directory as specified to store that file.	(from) NMMS (to) a specified folder	NOMCR along with CIM/XML file stored in the specified directory

Exceptions / Alternate Sequences:

1. MP submits a NOMCR with attached CIM/XML file

Use Case Step	Description	From - To	Information Content
Step 1b	MP logs into thin client	(from) at MP (to) thin client	
Step 2b	MP creates a NOMCR form and uses a CIM/XML file to create the data changes	(from) MP (to) NMMS	NOMCR form and Data changes in a CIM/XML file format
Step 3b	MP imports the CIM/XML file in NMMS	(from) MP (to) NMMS	CIM/XML file
Step 4b	NMMS performs the level 1 automatic Validation as CIM/XML file is imported. This includes connectivity and data range checking against the NOMCR and CIM/XML file, performs automated CIM/XML semantic and syntax checking for the NOMCR	NMMS	model data changes

Step 5b	After a successful validation, MP attaches the CIM/XML file with NOMCR form and NOMCR is created. MP submits this NOMCR. Please refer to Use Case COPS P01 ModelManageData_UC_ProcessNOMCR.doc If the validation is not successful MP corrects the CIM/XML file until an error free validation is successfully complete.	(from) MP (to) ERCOT MC	NOMCR with CIM/XML file attached
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Post-conditions:

ERCOT Model Coordinator has to verify all data changes are entered into IMM and are in sync.

References:

Use Cases referenced by this use case, or other documentation that clarifies the requirements or activities described.

- COPS P01 ModelManageData_UC_ProcessNOMCR.doc

The following Standards and documents are referenced by this case:

- IEC 61970-552-4, CIM/XML Model Exchange Format Rev3b 040904 Standard
- IEC 61970-501, CIM/XML RDF Schema
- ERCOT Protocol documents
- ERCOT NMMS Requirements document

Issues:

ID	Description	Status
1.	There are a few software tools that can generate and accept a CIM/XML Incremental file. However, some MPs may need to manually generate the CIM/XML incremental input files. Some examples of these files are located on the CIM/XML e-group (http://groups.yahoo.com/group/cimxml/). The IEC 61970-552-4 standard provides the requirements should an MP wish to create their own tool.	
2.	Any data that MP fails to enter will be entered by ERCOT MC using the graphic editor	

Revision History:

No	Date	Author	Description
1	8/7/06	M. Sengupta	Use case initial version based on current information
2	8/10/06	M. Sengupta	Use case edited based on further information
3	8/25/06	M. Sengupta	Added corrections based on Margaret's correction, deleted steps that need to go to Process NOMCR
4	9/5/06	M. Sengupta	Modified and corrected based on changes done in business process of ERCOT as informed in the meeting of Aug 28-31
5	9/5/06	M. Sengupta	Modified again based on telephonic discussion with

			Margaret
6	9/6/06	M. Goodrich	Review changes and added final revisions
7	9/6/06	M. Sengupta	Accepted final review comments of Curtis and increased version
8	9/10/06	M. Goodrich	Consistency Edits and prepared for ERCOT internal review.
9	9/11/06	M. Goodrich	Final edits from NMG